

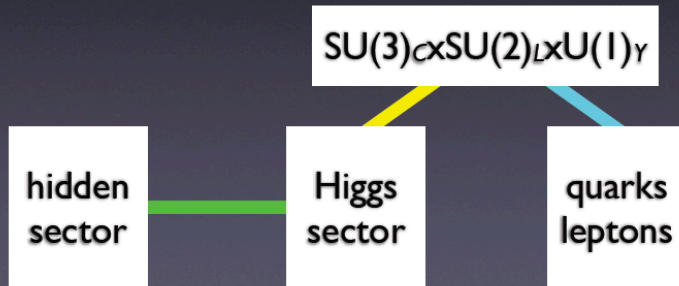


# Higgs as a portal . . .



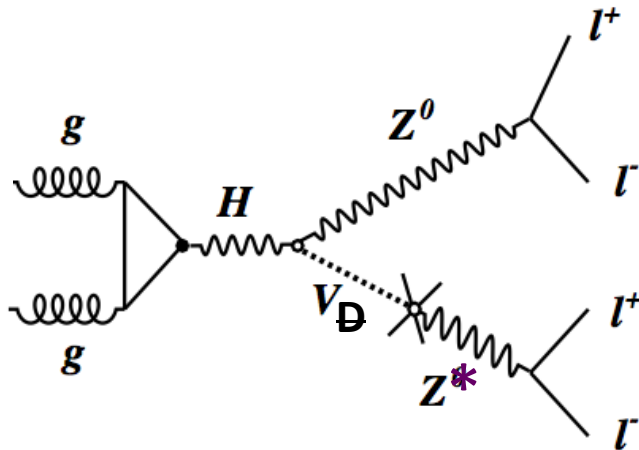
## Higgs as a portal

- having discovered the Higgs?
- Higgs boson may connect the Standard Model to other “sectors”



$$L \supseteq \frac{1}{4} \kappa_{H V_D} H^+ H V_{D\mu} V_D^\mu$$

hidden sector photon ( $\gamma'$ )  
 also called heavy or dark photon ( $\gamma_D$ );  
 hidden sector  $Z^0$ -boson ( $Z'$ )  
 also called  $Z^0$ -dark ( $Z_D$ );  
 generically labeled  $V_D$  here



one possibility; as an example

this type of study benefits from increased  
 luminosity and energy

OK Baker and T. Lagouri  
 Yale University